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## Quality assessment of microarray experiments

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Received 13 September 2004; revised 7 April 2005; accepted 13 April  
2005. Available online 31 May 2005.

### Abstract

### Objectives:

We describe a quality assurance

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procedure to maximize the value of oligonucleotide microarray expression profiles.

### Design, methods, and results:

Background microarray noise was  $82.2 \pm 54.5$  and  $51.8 \pm 12.4$  units, respectively, before and after enacting the program ( $P < 0.0001$ ). We also noted improved concordance of microarray expression fold-changes for selected genes with results of RT-PCR validation.

### Conclusions:

This multi-step procedure, including quantification of RNA sample degradation and detection of outlier data points, has increased data quality from our microarray facility.

**Keywords:** RNA; Oligonucleotide microarrays; Data quality; Gene expression; Microarray analysis

### Article Outline

Introduction

Methods

RNA quality analysis

Quality control after cRNA labeling and hybridization

Results

Performance improvement over time

Microarray validation with RT-PCR

Conclusion

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